

Appl. No. 09/723,366
Amdt. Dated 10/26/2004
Reply to Final Rejection of 08/04/2004

APP 1276

REMARKS

Claims 16-21 have been finally rejected, 35 USC 102(b), as being anticipated by the newly cited reference by Perkins ("Mobile IP", IEEE Communications Magazine, May 1997). In response thereto applicants propose to amend claims 17, 18, 20 and 21, as discussed, below, claim 19 being dependent on claim 18, more precisely to recite applicants' invention.

Applicant submits that the Perkins disclosure in no way anticipates or suggests applicants' invention. Perkins describes what is known as a smooth handoff. Specifically Perkins teaches and discloses a way for an old Foreign Agent (FA), which applicants assume the Examiner equates to applicants' serving base station, can encapsulate an IP packet within another IP packet and forward it to the mobile's new FA, which applicants assume the Examiner has equated to applicants' target base station. Perkins' method could reduce packet loss when a mobile moves from one FA to another by forwarding the mobile-bound transient packets that are already received by the old FA to the mobile's new location, i.e., its new FA. This, however, is not what is involved in applicants' invention, as now more precisely set forth in amended claims 16-21.

Applicants' invention solves a different problem, which is denominated as soft handoff, not smooth handoff. The soft handoff problem is how can a mobile receive two (or multiple) copies of the same data from two (or multiple) base stations and combine the different copies to derive a better final copy of the data. This allows the data to be recovered with a high probability even when portions of the data are damaged when transmitted over one or both of the paths to the mobile. To solve this soft handoff problem in an IP network in which synchronization between copies of the same data sent over different paths (i.e., originating from different base stations) to the mobile is a challenge and the central problem that applicant's invention solves.

Perkins does not provide any method for distributing copies of the same data from different paths (FAs or base stations) to the same mobile. Fig. 10 of the Perkins' paper shows both the serving base station (i.e., the Home agent) and the target base station (i.e., the Foreign agent) but only the Foreign agent (target base station) transmits to the mobile. Nor does Perkins combine at the mobile copies of data packets separately sent from the Home and Foreign agents. Fig. 15, cited by the Examiner, is discussed at the bottom of page 95, to wit "when the mobile node moves to a new point of attachment, it instructs its new foreign agent to send a binding update to its previous foreign agent."

Further, Perkins does not provide any method or suggestion for solving the problem of synchronizing the copies of the same data sent to the mobile over different paths, i.e., from different base stations. Specifically, there is no teaching or suggestion in Perkins that lower layer data packets be utilized at the mobile for combining the same data packets sent over two different paths to obtain the accurate reproduction of the data packet involved in the soft handoff. Perkins Fig. 7, page 93, cited by the Examiner and actually described at page 92,

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does not mention or suggest that lower layer packets are produced or involved in any way in the operations of the Perkins system.

Claim 17, as amended, clearly sets forth these inventive and patentable distinctions between applicants' invention and the Perkins paper, wherein a data packet, including lower layer data packets, is transmitted from a serving base station both to the mobile and to the target base station which, without any processing at the target base station, transmits what it receives from the serving base station to the mobile and the mobile then combines the lower layer packets received over these two distinct paths, i.e., one directly from the serving base station and the other through the target base station, to effectuate the soft handoff.


Independent claims 18 and 20 similarly distinguish from Perkins. Dependent claim 21 further recites the combining steps taken at the mobile in response to the data received directly from the serving base station and separately through the target base station. This comparison of the data received is in no ways described by Perkins at page 95, Smooth handoffs, paragraph 1, lines 1-6, as asserted by the Examiner. Nor does the Examiner's description of Perkins comparing data signal strength against a threshold have any relevance to applicants' invention wherein no threshold is involved and instead lower layer data packets of two distinct data packets are compared against each other.

Accordingly, applicants respectfully submit that claims 16-21, as amended, are clearly patentably distinct from Perkins. Withdrawal of the Final Rejection, entrance of this Amendment, reconsideration and allowance of claims 16-21, and passage of this application to issue are therefore respectfully requested.

If the Examiner deems it would in any way expedite the prosecution of this application, the Examiner is invited to telephone applicants' attorney at the number set forth below.

Respectfully submitted,

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